VEAB Heat Tech AB

AW
Fan heaters for hot water

AW

Fan heaters for hot water

AW fans are used for permanent heating of warehouses, industrial premises, workshops, sports halls, shops and the like. Due to its attractive design with simple, neat lines, the AW-series can also be installed in public premises. The AW fan heater can be supplemented with a mixing section that supplies fresh air and can then also be used as a supply air unit. The AW series is available in four sizes and three models. All fan heaters are designed for a 230V~ power supply, which ensures very simple installation. The fan heaters have a low sound level and offer reliable operation.

- Four sizes and three models
- Available with built-in control equipment for sensor control or for external 0...10V:s control signal
- Low sound level – suitable for most applications
- Three fan speeds as standard
- Simple 230V~ installation
- Air deflector directs the air vertically
- Inspection cover for cleaning the fan and coil

Design

Casing made of galvanized sheet steel, painted white.
Coils have copper tubes and aluminium fins.
Ball-bearing mounted fan with overheating protection has low sound level and reliable operation. For supplying fresh air, the AW series can be equipped with a mixing section and will then be an excellent supply air unit.
See model AW-af, pages 6 and 7.

The AW is available in three models designated AW-a, AW-af and AW-s.

Capacity

Pages 10 and 11 show examples of capacities for each size. You can also use the VEAB Select web-based calculation program to carry out your own calculations (www.veab.com) or contact our sales staff for assistance.

Installation

The AW can be mounted on a wall using AWV wall brackets or can be suspended from the ceiling on AWT hanger brackets.

Control

Built-in control equipment

-a

Fan heater with built-in control equipment for external sensor and setpoint adjustment. Can also be controlled by an external 0...10V control signal. See pages 4 and 5.

-af, if there is risk of freezing

Fan heater with built-in control equipment for external sensor and setpoint adjustment. Used in cold areas and if installed with mixing section. See pages 6 and 7.

External control equipment

-s

Fan heater for external control equipment.
Has three fan speeds. See pages 8 and 9.

Approvals

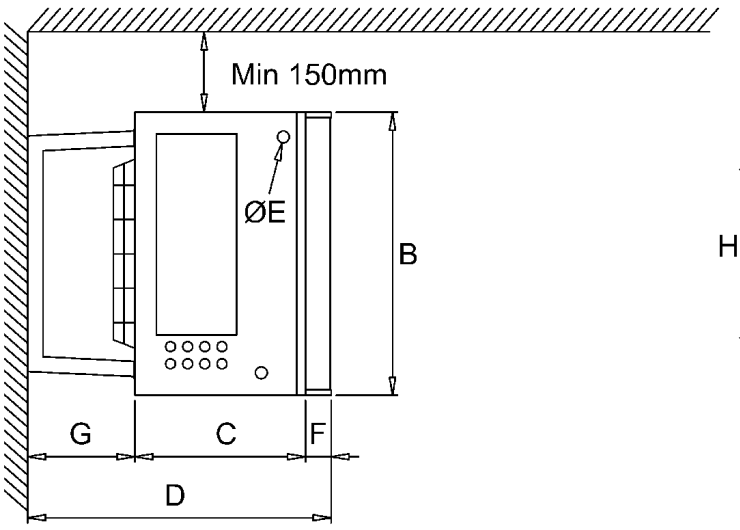
The fan heaters are manufactured in conformance with:
LVD Directive: EN 60355-1, EN 60335-2-30 and EN 50366
EMC Directive: EN 61000-6-2 and EN 61000-6-3
EMF Directive: EN 50366

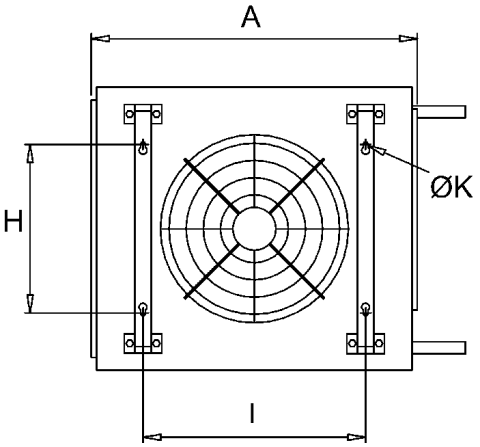
Overview of range

Type		AW12	AW22	AW42	AW62
Power supply		230V~	230V~	230V~	230V~
Current, max.	A	0.4	0.6	0.9	2.2
Air flow rate [1] (low/intermediate/high speed)	m^3/h	600 / 900 / 1200	1100 / 1500 / 2300	1900 / 2500 / 3900	3000 / 4500 / 6200
Sound level [2] (low/intermediate/high speed)	dB	41 / 51 / 56	41 / 52 / 56	44 / 55 / 62	48 / 57 / 68
Throw [4] (high speed)	m	4,5	7,0	9,0	14,0
Throw with AWLA [4] (high speed)	m	6,5	10,0	12,5	19,0
Connecting pipes	mm dia.	22	22	28	28
Max. operating water temp., AW-a and AW-af	°C	100	100	100	100
Max. operating water temp., AW-s	°C	150	150	150	150
Max. operating pressure (water)	bar	10	10	10	10
Max. ambient temperature	°C	30	30	30	30
Can be ordered in version –a		X	X	X	X
Can be ordered in version –af			X	X	X
Can be ordered in version –s		X	X	X	X
Weight	kg	17	23	32	46
Degree of protection		IP44 [3]	IP44 [3]	IP44 [3]	IP44 [3]

[1] The air flow rate with mixing section and filter fitted is about 20% lower than the specified data for open outlet fans.
[2] Is measured at 5 metres from the AW.
[3] The -a model is delivered as standard with IP20 valve actuator. Can be changed to IP54 valve actuator to special order.
[4] The throw length data is valid when the inlet temperature is +40 °C and the room temperature is +18 °C. The throw lenght is defined as the distance from the fan heater to the point where the air speed has dropped to 0,2 m/s.

Dimensions	A mm	B mm	C mm	D mm	E Ø mm	F mm	G mm	H mm	I mm	Ø K mm
AW 12	485	430	325	570	22	46	200	260	330	10
AW 22	560	530	350	600	22	46	200	330	410	10
AW 42	710	655	400	740	28	70	270	420	505	10
AW 62	855	780	445	785	28	70	270	550	640	10





AW-a

Fan heater for hot water with built-in control equipment for fan and water control

The AW-a with built-in control equipment offers simple installation due to fewer cable runs. This, in turn, lowers the installation cost and reduces the risk of wrong connections. The AW-a can be controlled by external sensors or an external 0...10V control signal.

Model –a

The AW-a is delivered with built-in automatic control for fan and water control, complete with valve and actuator. For kvs value of valve, see table to the right.
The AW-a has automatic control of fan speed in three steps to suit the heat demand. When there is no heat demand, the fan will stop and the valve will shut off the water flow, which reduces the heat losses, thus saving energy and money. This also ensures a low sound level and reduces fouling of the coil and fan.

Valve size	Kvs
AW 12a	5.7
AW 22a	5.7
AW 42a	10.0
AW 62a	10.0

Control

The AW-a is supplemented with an external room sensor and setpoint adjuster. See the next page for example. The AW-a can also be controlled by an external 0...10V control signal.

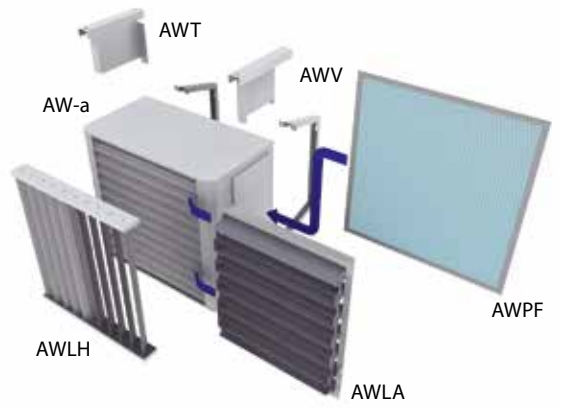
An AW-a with connected sensor can control an unlimited number of AW-a units and type CAW-a ceiling-mounted fan heaters by slave control. The slave-controlled units need no sensors since they receive their control signals from the AW-a with sensor. See next page for sensors.

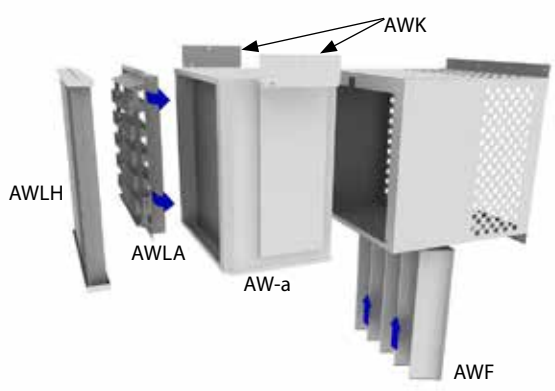
Accessories

See next page for accessories suitable for the AW-a.

Installation

The AW-a with AWT hanger brackets can be suspended from the ceiling and with AWV brackets can be mounted on a wall. See next page for dimensions.





Project design/ordering

Descriptive text - AW-a

Fan heater for hot water. VEAB type AW-a, with casing of galvanized sheet steel, painted white. Water coils with copper tubes and aluminium fins. Built-in control equipment that controls the fan in three speeds to suit the heat demand and starts/stops the water flow. Setpoint adjustment is carried out externally on a sensor or by external 0...10V control signal. Accessories such as sensor, setpoint adjuster, filter, air deflector and brackets must be ordered separately.

Accessories

	Product	Range	Degree of protection
	Room sensor TG-R430 With setpoint adjustment.	Range 0-30°C	IP30
	Room sensor TG-R530. Supplement with the TG-R430 for setpoint adjustment.	Range 0-30°C	IP30
	Room sensor TG-R630. Supplement with the TG-R430 for setpoint adjustment.	Range 0-30°C	IP54

	Product	
	Filter section AWK For filtering the circulation air for the AW. The filter must be ordered separately. Not available for the AW 12.	Overall length: AWK 22 = 550 mm AWK 42 = 600 mm AWK 62 = 600 mm
	Filter AWF Pleated bag filter for the AWK and AWB. Large filter area for long intervals between filter changes. The filter reduces fouling of the fan and coil. Not available for the AW 12.	Filter class G3
	Filter AWPF Panel filter for installation in the AW between the fan and coil.	
	Air deflector AWLH Aluminium blades. Used for directing the air sideways. Can not be used together with AWLA.	
	Induction louvre AWLA Extends the throw with an average of 40%. Can not be used together with AWLH.	
	Wall brackets AWV	Overall length: AW 12 and 22 = 200 mm AW 42 and 62 = 270 mm
	Hanger brackets AWT	The distance between the ceiling and the AW is 150 mm.

AW-af

Fan heater for hot water for installations in which there is risk of freezing

The AW-af is used in installations in which there is risk of freezing, e.g. when installed with a mixing section.

Model –af

The AW-af operates with the fan speed selected on installation and the fan motor runs continuously. Fine control of the temperature is carried out by the valve and actuator supplied. The AW-af has automatic connection of stoppage heating and anti-freeze protection and alarm. On a freezing alarm, the mixing section and exhaust air fan, if any, will be shut off.

In order to optimize anti-freeze control, we recommend that the AW-af should be installed in a secondary circuit with circulation pump and check valve (not included).

The AW12 is not produced in the -af model.

Control

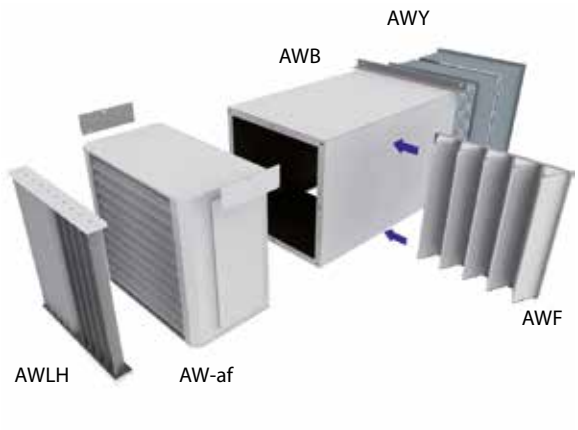
The AW-af operates with room control and min. inlet air temperature. The inlet air temperature sensor is installed at the factory. The AW-af is supplemented with an external room sensor. Setpoint adjustment is carried out either on the built-in regulator or externally on the TG-R430.

Accessories

See the next page for the accessories suitable for the AW-af.

Installation

If the AW-af is installed with mixing section AWB fit the hanger mounting supplied to the AW and connect so that the load on the structure will be relieved.



Project design/ordering

Descriptive text - AW-af

Fan heater for hot water. VEAB type AW-af, with casing of galvanized sheet steel, painted white. Water coils with copper tubes and aluminium fins. Built-in control equipment for room temperature control and min. inlet air temperature. The inlet air temperature sensor is fitted at the factory. The control equipment adjusts the water flow to suit the heat demand in the premises, and also has stoppage heating and controlling anti-freeze protection with alarm. The room sensor and setpoint adjuster are connected externally. Accessories such as mixing section AWB, room sensor, setpoint adjuster, filter and air deflector must be ordered separately.

Accessories

	Product	Range	Degree of protection
	Room sensor TG-R430 With set point adjustment.	Range 0-30°C	IP30
	Room sensor TG-R530. Supplement with the TG-R430 for setpoint adjustment.	Range 0-30°C	IP30
	Room sensor TG-R630. Supplement with the TG-R430 for setpoint adjustment.	Range 0-30°C	IP54
	Operating selector switch AWD 0 = closed 1 = circulation heating 2 = ventilation		IP65

	Product	
	Air deflector AWLH Aluminium blades. Used for directing the air sideways.	
	Outer wall grille AWY Supplied complete with telescopic wall lead-through that fits directly onto the AWB.	Wall opening dimensions, W×H mm: AWY 22 = 495 x 495 AWY 42 = 600 x 600 AWY 62 = 735 x 735
	Mixing section AWB Operates with the AW as a supply air unit and supplies the premises with heated fresh air. The AWB has anti-condensation insulation. The mixing damper is opened automatically by a damper motor (must be ordered separately). Supplied with hanger mounting that must be fitted to the AW.	Overall length: AWB 22 = 880 mm AWB 42 = 980 mm AWB 62 = 1105 mm
	Filter AWF Pleated bag filter for the AWK and AWB. The filter reduces fouling of the fan and coil. Not available for the AW 12.	Filter class G3
	Damper motor AF 230. For the AWB 22, 42 and 62.	Degree of protection IP54
	Control unit AWBH Hand-lever for AWB. For AWB 22, 42 och 62.	

AW-s

Fan heater for hot water for external control equipment

The AW-s for external control equipment is the alternative if you require a simple fan heater, without compromising on quality.

Model –s

The AW-s is supplied without automatic control. The AW-s has three fan speeds as standard. The speed can be controlled by selector switch AWC or can be preset during the electrical installation work.

Control

The AW-s is supplemented with room thermostat, valve and actuator, and also speed selector switch, if required. See next page.

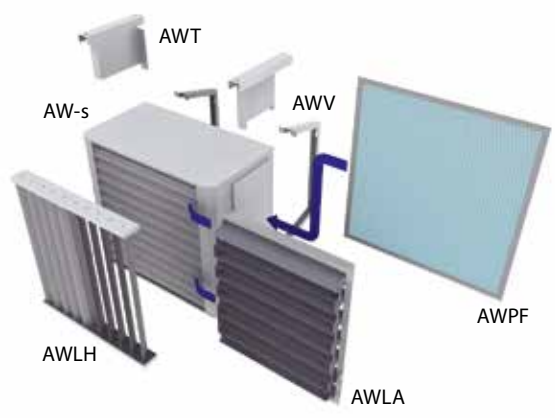
Valve	Kvs
AWTV 12-22, IP20	5.7
AWTV 42-62, IP20	10.0
AWTV 12-22, IP54	5.0
AWTV 42-62, IP54	8.0

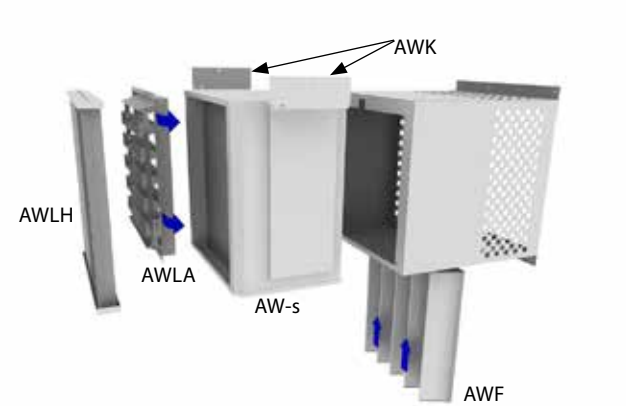
Accessories

See next page for accessories to suit the AW-s.

Installation

The AW-s can be suspended from the ceiling with hanger brackets AWT and with brackets AWV can be mounted on a wall. See next page for dimensions.





Project design/ordering

Descriptive text - AW-s

Fan heater for hot water. VEAB type AW-s, with casing of galvanized sheet steel, painted white. Water coils with copper tubes and aluminium fins. Fan motor for three fan speeds. Accessories such as thermostat, filter, air deflector and brackets must be ordered separately.

Accessories

	Product	Range	Degree of protection
	Actuator and valve AWTV 12-62, IP20 Used together with thermostat TI-N or SR 121/1.	Max. 94°C 10 bar	IP20
	Actuator and valve AWTV 12-62, IP54 Used together with thermostat TI-N or SR 121/1.	Max. 100°C 10 bar	IP54
	Speed selector switch AWC 12-62 Can control up to two AW-s. 1=low speed, 2=intermediate speed, 3=high speed	Range 0-30°C	IP54
	Thermostat SR 121/1 Can control two AW-s.	Range 0-40°C	IP54
	Room thermostat TI-N Can control one AW-s.	Range 5-30°C	IP30

	Produkt	
	Filter section AWK For filtering the circulation air to the AW. The filter must be ordered separately. Not available for the AW 12.	Overall length: AWK 22 = 550 mm AWK 42 = 600 mm AWK 62 = 600 mm
	Filter AWF Pleated bag filter for the AWK and AWB. Large filter area for long intervals between filter changes. The filter reduces fouling of the fan and coil. Not available for the AW 12.	Filter class G3
	Filter AWPF Panel filter for installation between the fan and heating coil.	
	Air deflector AWLH Aluminium blades. Used for directing the air sideways. Can not be used together with AWLA.	
	Induction louvre AWLA Extends the throw with an average of 40%. Can not be used together with AWLH.	
	Wall brackets AWV	Overall length: AW 12 and 22 = 200 mm AW 42 and 62 = 270 mm
	Hanger brackets AWT	The distance between the ceiling and the AW is 150 mm.

Capacity of AW12

Water temp.		in/out 90°C/70°C				in/out 80°C/60°C				in/out 60°C/40°C			
Air flow rate	Air in	Air out	Output	Flow water	Pressure drop. water	Air out	Output	Flow water	Pressure drop. water	Air out	Output	Flow water	Pressure drop. water
m^3/h	°C	°C	kW	l/s	kPa	°C	kW	l/s	kPa	°C	kW	l/s	kPa
1200	-10	44.5	24.5	0.30	31.9	38.1	21.6	0.27	25.9	25.3	15.9	0.19	15.6
900	-10	49.3	20.0	0.25	22.1	42.5	17.7	0.22	18.0	28.6	13.0	0.16	10.9
600	-10	55.9	14.8	0.18	12.8	48.3	13.1	0.16	10.5	33.0	9.7	0.12	6.4
1200	±0	49.0	21.2	0.26	24.6	42.6	18.4	0.23	19.4	29.5	12.8	0.16	10.6
900	±0	53.4	17.3	0.21	17.0	46.4	15.1	0.18	13.5	32.3	10.5	0.13	7.4
600	±0	59.3	12.8	0.16	9.9	51.7	11.2	0.14	7.9	36.1	7.8	0.09	4.4
1200	+15	55.5	16.6	0.20	15.7	48.9	13.9	0.17	11.7	35.4	8.4	0.10	5.0
900	+15	59.1	13.6	0.17	10.9	52.0	11.4	0.14	8.1	37.3	6.9	0.08	3.5
600	+15	64.0	10.0	0.12	6.4	56.2	8.4	0.10	4.8	40.0	5.1	0.06	2.1

Capacity of AW22

Water temp.		in/out 90°C/70°C				in/out 80°C/60°C				in/out 60°C/40°C			
Air flow rate	Air in	Air out	Output	Flow water	Pressure drop. water	Air out	Output	Flow water	Pressure drop. water	Air out	Output	Flow water	Pressure drop. water
m^3/h	°C	°C	kW	l/s	kPa	°C	kW	l/s	kPa	°C	kW	l/s	kPa
2300	-10	40.3	43.4	0.53	33.6	34.4	38.3	0.47	27.2	22.4	38.0	0.34	16.0
1500	-10	47.6	32.4	0.40	19.7	40.9	28.6	0.35	16.0	27.3	21.0	0.25	9.5
1100	-10	52.7	25.9	0.32	13.0	45.5	22.9	0.28	10.6	30.7	16.8	0.20	6.4
2300	±0	45.3	37.6	0.46	25.8	39.3	32.6	0.40	20.3	27.1	22.5	0.27	10.8
1500	±0	51.9	28.1	0.35	15.1	45.0	24.4	0.30	11.9	31.2	16.9	0.21	6.4
1100	±0	56.4	22.4	0.28	10.0	49.1	19.5	0.24	8.0	34.1	13.5	0.16	4.3
2300	+15	52.4	29.4	0.36	16.4	46.2	24.5	0.30	12.1	33.6	14.6	0.18	5.0
1500	+15	57.8	21.9	0.27	9.7	50.8	18.3	0.22	7.1	36.4	11.0	0.13	3.0
1100	+15	61.6	17.5	0.22	6.4	54.1	14.7	0.18	4.8	38.5	8.8	0.11	2.0

Capacity of AW42

Water temp.		in/out 90°C/70°C				in/out 80°C/60°C				in/out 60°C/40°C			
Air flow rate	Air in	Air out	Output	Flow water	Pressure drop. water	Air out	Output	Flow water	Pressure drop. water	Air out	Output	Flow water	Pressure drop. water
m^3/h	°C	°C	kW	l/s	kPa	°C	kW	l/s	kPa	°C	kW	l/s	kPa
3900	-10	38.8	71.4	0.88	41.7	33.1	63.0	0.77	33.8	21.6	46.1	0.56	20.0
2500	-10	46.4	52.9	0.65	24.1	39.9	46.7	0.57	19.6	26.6	34.3	0.42	11.8
1900	-10	51.0	43.4	0.54	16.9	44.0	38.4	0.47	13.8	29.7	28.3	0.34	8.3
3900	±0	44.0	61.9	0.76	32.1	38.2	53.7	0.66	25.3	26.4	37.1	0.45	13.5
2500	±0	50.8	45.9	0.56	18.6	44.2	39.8	0.49	14.7	30.7	27.7	0.34	8.0
1900	±0	54.9	37.7	0.46	13.0	47.8	32.8	0.40	10.3	33.3	22.8	0.28	5.7
3900	+15	51.3	48.4	0.60	20.5	45.4	40.4	0.50	15.1	33.2	24.2	0.29	6.3
2500	+15	57.0	35.8	0.44	11.9	50.2	30.0	0.37	8.8	36.2	18.1	0.22	3.7
1900	+15	60.4	29.4	0.36	8.3	53.1	24.7	0.30	6.2	38.0	16.9	0.18	2.7

Capacity of AW62

Water temp.		in/out 90°C/70°C				in/out 80°C/60°C				in/out 60°C/40°C			
Air flow rate	Air in	Air out	Output	Flow water	Pressure drop. water	Air out	Output	Flow water	Pressure drop. water	Air out	Output	Flow water	Pressure drop. water
m^3/h	°C	°C	kW	l/s	kPa	°C	kW	l/s	kPa	°C	kW	l/s	kPa
6200	-10	36.9	109.0	1.34	49.3	31.4	96.2	1.18	39.8	20.3	70.3	0.85	23.4
4500	-10	42.4	88.4	1.09	33.6	36.3	78.0	0.96	27.2	23.9	57.2	0.70	16.1
3000	-10	49.3	66.6	0.82	20.0	42.4	58.9	0.72	16.3	28.5	43.3	0.53	9.7
6200	±0	42.3	94.5	1.16	38.0	36.7	82.0	1.01	29.7	25.3	56.6	0.69	15.8
4500	±0	47.2	76.6	0.94	25.8	41.0	66.5	0.82	20.3	28.4	46.1	0.56	10.9
3000	±0	53.4	57.8	0.71	15.4	46.4	50.2	0.62	12.1	32.3	34.9	0.42	6.6
6200	+15	49.9	73.9	0.91	24.2	44.1	61.7	0.76	17.7	32.4	36.8	0.45	7.3
4500	+15	54.0	59.9	0.74	16.5	47.6	50.1	0.61	12.1	34.6	30.0	0.37	5.0
3000	+15	59.1	45.2	0.56	9.8	52.0	37.9	0.46	7.3	37.3	22.8	0.28	3.1

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